From: Reitter, Eric T <eric.reitter@woodplc.com>

Sent: Wednesday, July 25, 2018 6:05 PM

To: Reitter, Eric T

Subject: FW: Bunker Hill-Subsurface Work Near Sewer Main

From: Joe Close [mailto:jclose@southforksd.com]

Sent: Friday, January 12, 2018 7:33 AM

To: Tahghighi, Koorus < koorus.tahghighi1@woodplc.com **Subject:** RE: Bunker Hill-Subsurface Work Near Sewer Main

Thank you Mr. Tahghighi,

I appreciate the update and I would appreciate any updates that come along.

Have a good weekend.

-Joe

Joe Close South Fork Coeur d' Alene River Sewer District District manager Office 753-8041 Cell 512-0789

From: Tahghighi, Koorus [mailto:koorus.tahghighi1@woodplc.com]

Sent: Thursday, January 11, 2018 1:49 PM
To: Joe Close < iclose@southforksd.com>

Cc: Reitter, Eric T <eric.reitter@woodplc.com>; Archer, Spencer <spencer.archer@woodplc.com>

Subject: Bunker Hill-Subsurface Work Near Sewer Main

Good afternoon Mr. Close:

We spoke last June about the upcoming construction activities along the sewer main paralleling Interstate 90, west of Kellogg, ID. You sent me the sewer drawings (plan and profiles). I am contacting you to provide an update. We have not completed the design and have not finalized the construction schedule yet, but as it stands today:

- 1-Design will be finalized in March;
- 2-No construction is planned near the sewer main (closer than 20 feet) until July 2018;
- 3-We will have two crossings of the main that is expected to occur in August and October (one time each month), and we plan to support the pipe; and
- 4-We will gain experience with the site soil by constructing over 1,000 linear feet of our subsurface barrier wall (excavation and backfill) before getting close to the sewer main, so we will know if we need to alter our approach or design to protect the main.

The text below is what we provided to USACE/EPA/IDEQ in our draft design report. I am planning to contact you in March or early April, when the design has been finalized and the schedule becomes more solidified, to provide you all the details and discuss the project. However, I am more than happy to provide you whatever information you may need now or discuss this matter over the phone at your convenience; please let me know. Also, we welcome any suggestions or improvements you deem appropriate.

Sincerely,

Koorus Tahghighi, PE Amec Foster Wheeler 600 University Street Suite 600 Seattle, WA 98101 D. 206-342-1783 C. 206-641-6301

"The South Fork Coeur d'Alene River Sewer District (Sewer District) was contacted to obtain information on the sanitary sewer main in the work area. The line is a gravity sewer system and varies from 15 to 24 inches in diameter. The plan view and profiles of the sewer line were obtained from the Sewer District and have been included as Appendix D. The location of the sewer line can be readily identified in the field by the manhole covers on the ground surface. The pipe runs between manholes are straight, so the exact location where the SBCW will cross the sewer main can be identified. The SBCW alignment within the ROW was selected so that the majority of the alignment is at least 15 feet away from the sewer line on center. This spacing will maintain a minimum distance of 12 feet from edge to edge between the pipe and the SBCW trench and generally places the sewer line outside the active wedge failure zone of the trench (Appendix D).

The sewer line location and depth at the SBCW crossings will be verified using an air knife or similar tool. During construction, a trench will be excavated all the way around the sewer line to expose the pipe at least 1 foot in all directions. The large-diameter sewer pipe is capable of spanning the 3-foot width of the excavation trench while the slurry wall is being constructed. However, alternate techniques, such as temporary support of the sewer pipe, will be discussed with the Sewer District. Soil that may be adhered to the sewer pipe will be allowed to fall into the trench excavation, to the extent possible. Any remaining soil will be washed off the sewer pipe by directing the slurry hose toward the pipe itself. If the trench alignment happens to be at a joint, the alignment will be shifted such that only a solid run of the sewer pipe is suspended across the trench"

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